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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
07/702,615	05/17/1991	ROGER F. BAINES	F-8913(859-1	7311

2292 7590 08/30/2002

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EXAMINER

TAMAI, KARL I

ART UNIT PAPER NUMBER

2834

DATE MAILED: 08/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

07/702,615

Applicant(s)

BAINES, ROGER F.

Examiner

Tamai IE Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 48,51-58,60-67,72,75-79 and 93 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

- 6) ☒ Claim(s) 48,51-58,60-67,72,75-79 and 93 is/are rejected.

- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 April 1999 is: a) ☐ approved b) ☒ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 48, 51-58, 60-67, 72, 75-79, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mabuchi, '450, '953, and Campbell (US 3,041,118).

Mabuchi teaches a motor having two sets of diametrically opposed brush assemblies, where each brush assemblies contains two brushes 1 contacting the same segment 4 of cylindrical commutator. Each brush having a brush body 1 and a support arm 2. Mabuchi does not each support arm being a different resonant frequency due to different materials in the brush arm or a slot in one of the brush arms or carbon brush bodies mounted by interference fit into apertures on the support arm. '450 teaches that brush arms with different weights due to different dimension of the adjacent brush arms varies the intrinsic vibrating frequency of each arm to reduce noise and unequal rotation in the motor. It is inherent that the different brush arms cause a reliable brush contact with the commutator. '450 does not teach different materials in the brush arms or the material of the contacts. '953 teaches the equivalency of different size brushes, brushes of different materials, and a slit in one of the brushes to change the resonant frequency between two brush arms, including the combination of the brush and arm to have a different resonant frequency. '953 teaches brushes 6 mounted by interference

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fit into apertures 7 on the support arms. Campbell teaches the combination of leaf spring and carbon contacts. It would have been obvious to a person skilled in the art at the time of the invention to construct the motor of Mabuchi with the brush arms having different resonant frequency due to the use different materials in the brush arms or a slot in one of the arms because '450 teaches that different resonant frequencies in adjacent brushes reduces noise and unequal rotation in a motor and because '953 teaches the equivalence of changing the resonance frequency in two brush arms by different size brush arms, different materials in the brush arms, and a slot in one of the brush arms, where selection of know equivalents is within the ordinary skill in the art, and with a carbon brush as the electrical contact because Campbell teaches carbon brush with the leaf spring provides an inexpensive electrical contact which can operate under high temperatures.

3. The rejection of Claim 93 under 35 U.S.C. 103(a) over JP 59-30,672 ('672) and Mabuchi is withdrawn.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujisaki teaches the equivalency of a leaf spring brush with or without a carbon contact.


5. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new grounds of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai  
PRIMARY PATENT EXAMINER  
August 30, 2002



KARL TAMAI  
PRIMARY EXAMINER